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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,897	01/15/2004	Mark Molitor	HOL001 P445	4738
277 7590 12/10/2008 PRICE HENEVELD COOPER DEWITT & LITTON, LLP 695 KENMOOR, S.E. P O BOX 2567 GRAND RAPIDS, MI 49501				
EXAMINER WILHELM, TIMOTHY				
ART UNIT 3616		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/757,897

**Applicant(s)**

MOLITOR, MARK

**Examiner**

Timothy D. Wilhelm

**Art Unit**

3616

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-20 and 22-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-20 and 22-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This office action was made to replace the previous office action, sent out on 7/2/2008.

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 2-9,11-14,32, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by VanDenberg (5,718,445). VanDenberg discloses a vehicle suspension assembly 1, comprising a first control arm 14 having a first end 35 and a second end, wherein the first end 35 of the first control arm 14 includes a first bushing 28 adapted to pivotally couple the first control arm 14 to a first frame member of a vehicle, and wherein the second end of the first control arm 14 is pivotally coupled to an axle 12 via linkage member 20 which extends upwardly from the axle 12, a second control arm 14 having a first end and a second end, wherein the first end of the second control arm includes a second bushing 28 adapted to pivotally couple the second control arm to a second frame member of a vehicle, and wherein the second end of the second control arm is adapted to be pivotally coupled to the axle 12 of the vehicle via linkage member 20, a rigid, tube-shaped first torsional member 31 coupled to the first control arm 14 rearward of the first bushing 28 and forward of the axle 12, and coupled to the second control rearward of the first bushing 28 and forward of the axle 12, a third control arm having a first end and a second end, wherein the first end of the third control arm is

adapted to be pivotally coupled to a third frame member 7 of the vehicle, and wherein the second end of the third control arm is adapted to be pivotally coupled to the second frame member of the vehicle, a fourth control arm wherein the first end of the third control arm is adapted to be pivotally coupled to the third frame member 7 of the vehicle, and wherein the second end of the third control arm is adapted to be pivotally coupled to an axle 13, first and second pneumatic suspension bags positioned between the first and second frame members and axle 12, and third and fourth pneumatic suspension bags positioned between the first and second frame members, respectively, and axle 13, and a rigid second torsional member coupled to the third and fourth control arms. The torsional member 31 is situated such that it is proximate the first end 35 of the first control arm 14. The first and second ends of the first, second, and third control arms 14 include elastically deformable bushings 28 which have elongated apertures extending through the center.

3. With regard to claims 4 and 5, VanDenberg discloses the vehicle suspension assembly 1 described above wherein the first end 35 of the first control arm 14 is adapted to be pivotally coupled with a first linkage member 5 that is fixedly attached to and extends downwardly from the first frame member 16, the first end of the second control arm is adapted to be pivotally coupled with a second linkage member, identical to the first, that is fixedly attached to and extends downwardly from the second frame member.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over VanDenberg in view of Mair (6,409,280). VanDenberg discloses a vehicle suspension assembly comprising three control arms 24,24,22 and a rigid torsion member 60 coupled to the first and second control arms 24,24. VanDenberg discloses the present invention except for the torsional member including a first flanged end and a second flanged end, and the first flanged end being fixedly coupled to the first control arm via at least one bolt extending through at least one aperture in the first flanged end and at least one aperture in the first control arm, and the second flanged end being fixedly coupled to the second control arm via at least one bolt extending through at least one aperture in the second flanged end and at least one aperture in the second control arm. Mair teaches truck and trailer hub comprising an axle with a flanged end flanged end 20 that is fixedly coupled to a wheel assembly via a plurality of bolts 21 extending through corresponding apertures in the flange and wheel assembly. This is a commonly known means of coupling one object to another. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teachings of Mair of the

flanged tube connection to the two ends of the tube-shaped torsion member to create more secure and rigid attachments of the torsion member to the control arms.

6. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over VanDenberg in view of Bell (1,984,565). VanDenberg discloses the present invention except for the first and the second control arms 24,24 being substantially L-shaped defining an elbow along the length of each of the control arms, and on the elbow of which the torsion bar is connected. Bell teaches a vehicle wheel suspension assembly with L-shaped control arms 31 on which a bar 29 is connected to the elbow. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have applied the teaching of Bell of L-shaped control arms to the vehicle suspension assembly of Pierce ('12) to allow for specific special restraints.

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over VanDenberg et al in view of Goby (2,823,927). VanDenberg discloses the present invention except for control arms with forked ends. Goby teaches a vehicle suspension system 1 comprising at least one control arm 4, the end of which is fork-shaped and attached to the vehicle's axle 7. It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teachings of Goby's fork-shaped control arm to the vehicle suspension assembly of VanDenberg et al to reduce friction between the axle and the control arm.

8. Claims 18-20 and 29-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over VanDenberg in view of Conover (6,832,772). Vandenberg discloses the present invention except for the torsional member being pivotally attached to the

first and second control arms. Conover teaches a torsion bar 5 that is configured to be pivotally attached to a pair of control arms. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the suspension of VanDenberg with the pivotally attached torsional member of Conover to allow for adjustability in roll stiffness.

9. Claims 2,18-20,22-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buhl (5,711,544) in view of VanDenberg (5,882,031). Buhl discloses a suspension assembly for a vehicle comprising a first control arm 2 having a first end 9 and a second end 10, wherein the first end 9 of the first control arm 2 is pivotally coupled to a first frame member of the vehicle, and wherein the second end 10 of the first control arm 2 is coupled to a linkage member 5 that is coupled to and extends upward from an axle 1 of the vehicle (seen in Fig. 2), wherein the control member is coupled to the linkage member 5 through the axle 1; a second control arm 3 having a first end 9 and a second end 10, wherein the first end 9 of the second control arm 3 is pivotally coupled to a second frame member of the vehicle, and wherein the second end 10 of the second control arm 3 is coupled to the axle 1; a tube-shaped, rigid first torsional member 6 rotatably coupled to the first control arm 2 at a location along a length of the first control member 2 that is closer to the first end 9 of the first control arm 2 than to a mid-point of the first control arm 2, and wherein the torsional member 6 is rotatably coupled to the second control arm 3 proximate the first end 9 of the second control arm 3; a third control arm 4 pivotally coupled to the second frame member at a first end, and pivotally coupled to the axle 1 at a second end, at 5; and a fourth control arm 4 pivotally coupled

to a third frame member at a first end, and pivotally coupled to the axle 1 at a second end, at 5. With regard to the frame members to which each control arm is attached, each control arm is technically coupled to each frame member whether through direct coupling or through other frame members. Buhl fails to disclose the control arms of the suspension system being coupled to the frame via bushings at the first ends thereof and the torsional member being fixedly coupled to the first and second control arms.

VanDenberg teaches a vehicle suspension assembly 1, comprising a first control arm 14 having a first end 35 and a second end, wherein the first end 35 of the first control arm 14 includes a first bushing 28 adapted to pivotally couple the first control arm 14 to a first frame member of a vehicle, and wherein the second end of the first control arm 14 is pivotally coupled to an axle 12; a second control arm 14 having a first end and a second end, wherein the first end of the second control arm includes a second bushing 28 adapted to pivotally couple the second control arm to a second frame member of a vehicle, and wherein the second end of the second control arm is adapted to be pivotally coupled to the axle 12; and a tube-shaped first torsional member 31 fixedly coupled to the first control arm 14 rearward of the first bushing 28 and forward of the axle 12, and fixedly coupled to the second control arm rearward of the first bushing 28 and forward of the axle 12. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the suspension assembly of Buhl with the teaching of VanDenberg's bushings and fixed coupling of the torsional member to decrease friction between the frame and the control arm and to decrease production costs and ensure easier manufacturing of the torsional and control members.



***Response to Arguments***

10. Applicant's arguments filed 6/16/2008 have been fully considered but they are not persuasive. With regard to Applicant's argument about the use of the word proximate and its meaning as very near, after careful consideration, Examiner maintains the rejection still under the notion that the torsional member is connected to the control arm at a place along the control arm relatively very near the first end. Regarding Applicant's argument that the Mair patent is nonanalogous art, Mair teaches using connections such as that described by Applicant to attach a tubular member of a vehicle to another member of said vehicle. Because Mair involves the under-workings of a vehicle and teaches a method of connection in said area, it is considered to be analogous. Regarding Bell, the prior art shows that L-shaped control arms are common in the art, as is the same with the Goby reference and its control arm's fork-shaped end, and thus Examiner maintains his rejection on the basis that it would have been simple design choice to use these iterations of control arms. Both references Bell and Goby simply teach an alternate means of attaching a control arm to a vehicle and a torsional member to said control arm, which includes differing the shape of said control arm. Regarding Goby's fork-shaped arm, Goby teaches that it would have been obvious to replace the bushing assembly of VanDenberg with the connection using the forked end assembly of Goby. With regard to Applicant's claim that the torsion member of the Conover reference is not disclosed as being pivotally attached to the control arms, Examiner maintains that the torsion member is indeed pivotally attached at its most

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base form to the control arms because the torsion member is attached in a manner at the control arms that would allow it to pivot without bolt 6 in place.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy D. Wilhelm whose telephone number is 571-272-6980. The examiner can normally be reached on 9:00 AM to 5:30 PM Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on 571-272-6651. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John Q. Nguyen/  
Supervisory Patent Examiner, Art Unit 3616

Timothy D Wilhelm  
Examiner  
Art Unit 3616

/Timothy D Wilhelm/  
October 1, 2008